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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

REC'D 03 JAN 2005



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Applicant's or agent's file reference GU030012PCT	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/KR2003/001685	International filing date (day/month/year) 21 AUGUST 2003 (21.08.2003)	Priority date (day/month/year) 22 AUGUST 2002 (22.08.2002)
International Patent Classification (IPC) or national classification and IPC IPC7 F25B 21/02		
Applicant EC TECH CO., LTD. et al		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 4 sheets, including this cover sheet.
- ☒ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).
- These annexes consist of a total of 1 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 26 FEBRUARY 2004 (26.02.2004)	Date of completion of this report 07 DECEMBER 2004 (07.12.2004)
Name and mailing address of the IPEA/KR  Korean Intellectual Property Office 920 Dunsan-dong, Seo-gu, Daejeon 302-701, Republic of Korea Facsimile No. 82-42-472-7140	Authorized officer KIM, Eun Rae Telephone No. 82-42-481-5518 

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/KR2003/001685

I. Basis of the report

1. With regard to the elements of the international application:*

- ☐ the international application as originally filed
- ☐ the description:
pages _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____
- ☐ the claims:
pages _____, as originally filed
pages _____, as amended (together with any statement) under Article 19
pages _____, filed with the demand
pages _____, filed with the letter of _____
- ☒ the drawings:
pages 1/13, 3/13 ~ 13/13, as originally filed
pages _____, filed with the demand
pages 2/13, filed with the letter of Mar. 26, 2004
- ☐ the sequence listing part of the description:
pages _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language English which is

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☒ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets _____

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this opinion as "originally filed." and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item I and annexed to this report.

INTERNATIONAL PRELIMINARY EXAMINATION

International application No.

PCT/KR2003/001685

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1 - 25	YES
	Claims		NO
Inventive step (IS)	Claims	5 - 9, 15 - 25	YES
	Claims	1 - 4, 10 - 14	NO
Industrial applicability (IA)	Claims	1 - 25	YES
	Claims		NO

2. Citations and explanations (Rule 70.7)

Reference is made to the following documents:

D1: JP 7-106640 A

D2: US 5260851 A

D3: US 5661978 A

Claims 1-25 relate to a heat exchange unit including an apparatus to remove condensed water by allowing the condensed water gathered on a cooling fin part of the heat exchange unit to be evaporated to the air within the heat exchange unit itself.

D1 relates to a thermoelectric cooling unit which cools a control board for a computer incorporating a heat source efficiently. D2 relates to a housing for a computer power supply unit. D3 relates to a medical dispensing drawer having a thermoelectric device.

1. Novelty

Claims 1-25 relate to a heat exchange unit including an apparatus to remove condensed water, having a thermoelectric element between a hot sink and a cool sink. Such a thermoelectric element is not shown in D1-D3. Therefore, the subject matter of claims 1-25 is considered to be novel under PCT Article 33(2).

(Continued on Supplemental Sheet.)

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/KR2003/001685

Supplemental Box

(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of:

Box V.

2. Inventive Step

2.1. Claims 1-4 and 10-14

The subject matter of claims 1-4 and 10-14 is considered to lack an inventive step under PCT Article 33(3) for the following reasons:

- Claims 1-4 relate to a heat exchange unit comprising a hot sink, a cool sink, and a thermoelectric element, and a heat exchange unit having a condensed water evaporating means made of a capillary fiber. It would be obvious to a person skilled in the art to derive said heat exchange units claimed in claims 1-4 from the thermoelectric cooling unit comprising a thermoelectric cooling machine and continuous foam sponge shown in the description and Figs. 1 and 2 of D1.

- Claims 10-14 relate to a heat exchange unit comprising a hot sink, a cool sink and a thermoelectric element, and a heat exchange unit comprising a condensed water-evaporating means made of a capillary fiber and a power supplying unit. Said heat exchange units of claims 10-14 are a mere combination of the technical features of the computer power supply units of D1 and D2.

2.2. Claims 5-9 and 15-25

The subject matter of claims 5-9 and 15-25 is considered to involve an inventive step under PCT Article 33(3) since the inventive step of said claims is not denied by the combination of said documents.

3. Industrial Applicability

Since claims 1-25 relate to a heat exchange unit including an apparatus to remove condensed water, the subject matter of said claims is considered to be industrially applicable under PCT Article 33(4).

2/13

FIG. 2

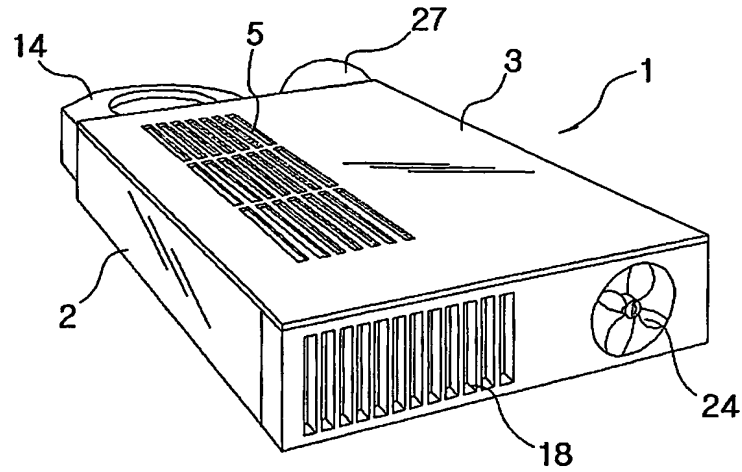


FIG. 3

